

Notes on the Earwigs (Dermaptera) of North America, north of the Mexican Boundary.

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The Philadelphia collections contain material of all the species of Dermaptera native to, or adventive in, these regions. It is the purpose of the present paper to list the native species, giving their synonymy and in each case the first incorrect use of a name for the species based on material from the regions here considered; to record hitherto unreported material before us, and to give briefly the local habitat and known distribution of each species. One new species is described. The nomenclature shows but little recent change; *annulipes* having been transferred by Burr from *Anisolabis* to *Euborellia*, while the series now at hand prove beyond question the distinctness of the species of the Unidentata Group of the genus *Prolabia* found in Hayti and in the southeastern United States, the correct name for the latter insect being *pulchella* of Serville.

Though the different North American species have been frequently mentioned in the literature, few studies in any way comprehensive have appeared.¹

The order is but weakly represented in the regions here treated, except in the subtropical and tropical areas of the southern United States, and constant field work has been necessary to assemble even the small total here recorded.

Fifteen species are represented, of which four may be said to be confined in distribution to the restricted tropical areas

¹Of these the most important are:—

1876. Brief Synopsis of North American Earwigs, with an Appendix on the Fossil Species, by Scudder. Bull. Geol. Geogr. Surv. Terr., II, pp. 249-260.

1911. The Earwigs of the United States National Museum, by Burr. Proc. U. S. Nat. Mus., XXXVIII, pp. 443-467.

1913. Notes on Nearctic Orthopterous Insects. I. Nonsaltatorial Forms, by Caudell. Proc. U. S. Nat. Mus., XLIV, pp. 595-599.

1914. United States and Mexican Records of Species of the Genus *Doru* (Dermaptera; Forficulidae), by Rehn and Hebard. Jour. N. Y. Ent. Soc., XXII, pp. 89 to 96.

of the southern United States, while two are found only in the subtropical desert of the southwest. A total of 432 specimens is recorded, of which 309 belong to the Philadelphia collections.

Our thanks are due to those who have assisted in permitting the examination of material, either their own property or in their care.

LABIDURIDAE.

PSALINAE.

1. *Anisolabis maritima* (Géné).

1832. *Forficula maritima* Géné, Sagg. Monogr. Forfic. Indig., p. 9. [Nice, France; Genoa and Tuscany, Italy; along Mediterranean.]

1853. *Anisolabis maritima* Fieber, Lotos, III, p. 257. [Exotic records; South Carolina.] (Generic assignment and first United States record.)

New York: Larchmont, XI, 27, 1902, (T. D. O'Connor), 1 ♂, [Hebard Cln.]

New Jersey: Palisades, 1901, (E. Daecke), 2 ♀, [A. N. S. P.]

Florida: Long Boat Key, 1 ♀, [Hebard Cln.]; Key West, (Agassiz; Morrison), 6 ♂, 8 ♀, [M. C. Z.]; Warrington, VIII, 4, 1903, (A. P. Morse), 1 juv., [Morse Cln.]; Fort Barrancas, VIII, 3, 1903, (A. P. Morse), 2 juv., [Morse Cln.]

Texas: Virginia Point, VII, 21, 1912, (M. Hebard; common under boards among low grasses on raised beach), 4 ♂, 3 ♀, 1 juv., [Hebard Cln.]

This insect is found under litter on the ground. It is usually met with in the largest numbers under drift on sea beaches. The species does not appear to exist far from salt water. It is generally distributed along the Gulf coast and the Atlantic coast as far north as Maine.

2. *Euborellia annulipes* (Lucas).

1847. *Forficelisa annulipes* Lucas, Bull. Soc. Ent. France, (2), V, p. LXXXIV. [Jardin des Plantes, Paris; probably introduced from North America.]

1905. *Anisolabis annulipes* Rehn and Hebard, Proc. Acad. Nat. Sci. Phila., 1904, p. 778. [Thomasville, Georgia.] (First United States record.)

1905. *Anisolabis azteca* Caudell, Ent. News, XVI, p. 216. [Jacksonville, Florida.]

1915. *Euborellia annulipes* Burr, Jour. R. Microsc. Soc., 1915, p. 545. (Generic assignment.)

Georgia: Tybee Island, VI, 20, (D. M. Castle), 1 ♂, 1 ♀, [A. N. S. P.].

Florida: Lake Worth, (Mrs. A. T. Slosson), 1 ♂, 1 ♀, [M. C. Z.]; Miami, III, 4, 1916, (M. Hebard; Musa Isle, orange grove, occasional under debris on sandy soil), 1 ♂, 3 ♀, 2 juv., [Hebard Cln.].

Alabama: Springhill, Mobile County, VIII, 25, 1915. (Rehn & Hebard; under signs on oaks), 1 ♂, 3 ♀, 3 juv., [Hebard Cln. and A. N. S. P.].

Mississippi: Agricultural College, (H. E. Weed), 2 ♂, 2 ♀, 3 juv., [A. N. S. P.]; Ocean Springs, I, 1905, (J. H. Comstock) 6 ♂, 6 ♀, 16 juv., [Cornell Univ. Cln.].

Louisiana: Nairn, XI, 1892, (H. E. Weed), 1 ♀, [A. N. S. P.].

Texas: Alvin, XI, 8, 1904. (Miss M. Hillje), 1 ♂, 1 ♀, [A. M. N. H.]; Laredo, VIII, 12, 1912. (M. Hebard; in drug store), 1 ♀, 1 juv., [Hebard Cln.].

Arizona: Phoenix, 1 ♀, [Hebard Cln.].

California: Folsom, VII, 19, 1885, 1 ♀, [M. C. Z.]; Mesa Grande, Sonoma County, IX, 30, 1906, (J. C. Bradley), 1 ♀, [Cornell Univ. Cln.]; Redlands, XII, 25, 1912, 1 ♂, 2 ♀, [Hebard Cln.]; Los Angeles, 1887, (D. W. Coquillett), 1 ♀, [Hebard Cln.]; Coronado, (F. E. Blaisdell), 2 ♂, 3 ♀, 1 juv., [Hebard Cln.].

This earwig is found under litter of every sort, sometimes under signs on trees and rarely in houses. It is more often found inland than under drift on sea beaches.

The species has been recorded from Philadelphia, Pennsylvania, and the District of Columbia; it should be considered adventive at these places. The species is now known from along the southern border of the United States, except in trans-Pecos Texas, New Mexico and eastern Arizona. The northernmost records, in addition to those given above, are: Raleigh, North Carolina; Camden and Columbia, South Carolina; Augusta and Macon, Georgia, and Montgomery, Alabama. It is generally distributed and numerous in southern Florida, the Florida Keys and southern coastal California.

LABIDURINAE.

3. *Labidura bidens* (Olivier).

1791. *Forficula bidens* Olivier, Encycl. Method., Ins., VI, p. 466. [Jamaica.]

1876. *Labidura riparia* Scudder (probably not *Forficula riparia* Pallas, 1773), Bull. U. S. Geol. Surv. Terr., II, p. 250. [Exotic records; Texas; Florida.] (First United States records.)

1905. *Labidura bidens* Rehn and Hebard, Proc. Acad. Nat. Sci. Phila., 1904, p. 777. [Thomasville, Georgia.] (Following Kirby's generic assignment, first United States record as *bidens*.)

1908. *Labidura erythrocephala* Burr, Bull. Mus. Hist. Nat. Paris, 1907, p. 512. [Savannah, Georgia.]

The description of *riparia*, from Siberia, is not sufficient to locate that species. It seems best to use the name *bidens* for the insect here considered until Siberian material can be obtained and the problem definitely solved.

Mississippi: Ocean Springs, I, 1905, (J. H. Comstock), 1 ♂, [Cornell Univ. Cln.].

Louisiana: Spanish Fort, New Orleans, VI, 29, 1916, (Lutz & Rehn; in pavilion), 2 ♀, 1 juv., [A. M. N. H. and A. N. S. P.].

Texas: Galveston, VII, 19, 1912, (M. Hebard; under board on sand near beach), 1 ♂, [Hebard Cln.]; Alvin, VII, 27, 1907 and XI, 8, 1904. (Miss M. Hillje), 1 ♂, 1 ♀, [A. M. N. H.].

This insect is usually found under litter on the ground. It frequently comes to light at night. It is often encountered under drift on sea beaches.

The species is widely distributed in Florida and southern Georgia, extending north along the Atlantic coast to Savannah. North of that point it is known only from a "South Carolina" record and one from Raleigh, North Carolina. Westward it is known only from the localities given above.

LABIIDAE.

SPONGOPHORINAE.

4. *Vostox brunneipennis* (Serville).

1839. *Psalidophora brunneipennis* Serville, Hist. Nat. Ins., Orth., p. 30. [Philadelphia, Pennsylvania.]

1876. *Spongophora brunneipennis* Scudder, (in part), Bull. U. S. Geol. Geogr. Surv. Terr., II, p. 252. [Exotic record; Pennsylvania; Kentucky to Florida; Texas².] (Generic assignment.)

1911. *Vostox brunneipennis* Burr, Deutsch. Ent. Nat.-Biblioth., II, p. 59. (New genus described with *brunneipennis* as genotype.)

North Carolina: Southern Pines, IV, 17, 1915, (A. H. Manee), 1 ♀, 2 juv., [Hebard Cln.].

Kentucky: Cumberland Gap, VII, 1876, (G. Dimmock), 1 ♂, 1 ♀, 7 juv., [M. C. Z.].

² Arizona is also given, this taken, however, from material of *Spongovostox apicdentatus*.

Louisiana: Arcadia, VIII, 20, 1915, (Rehn & Hebard; in great numbers under bark of dead birch, many immature individuals not taken; *Prolabia pulchella* also present, but much less numerous), 23 ♂, 33 ♀, 39 juv., [Hebard Cln. and A. N. S. P.].

This species is usually found under the bark of dead trees. We have found it only on magnolia and birch.

The insect has a very wide distribution over the southern and eastern portions of the United States, but is so rarely encountered that the records give little definite information as to the limits of its distribution. In Florida it has not been taken south of Enterprise. The most western records are Clifton and Columbia, Texas. The most northern are Dallas, Texas³; Arcadia, Louisiana; Cumberland Gap, Kentucky, and Philadelphia, Pennsylvania. The insect has once been found locally in very large numbers and has been reported common in Texas by Belfrage. Over the greater portion of its distribution in the United States it may, however, rightly be termed a rare species. The distribution in the Americas of this species and *Doru lineare*, are the widest known for any non-domiciliary earwigs of the New World.

5. *Spongovostox apicedentatus* (Caudell).

1876. *Spongophora brunneipennis* Scudder, (in part, not *Psalidophora brunneipennis* Serville, 1839), Bull. U. S. Geol. Geogr. Surv. Terr., II, p. 252. [Arizona.]

1902. *Spongophora brunneipennis* Scudder and Cockerell, (not *Psalidophora brunneipennis* Serville, 1839), Proc. Davenport Acad. Sci., IX, p. 18. [La Cueva, Organ Mountains, New Mexico.]

1904. *Labia melancholica* Rehn, (not of Scudder, 1876), Proc. Acad. Nat. Sci. Phila., 1904, p. 562. [Florence, Arizona.]

1905. *Spongophora apicedentata* Caudell, Proc. U. S. Nat. Mus., XXVIII, p. 461, fig. 1a. [Columbia, Texas; Catalina Springs, Tucson (type locality) and Fort Yuma, Arizona; Los Angeles and San Diego Counties, California.]

1911. *S[pongovostox] apicedentatus* Burr, Deutsch. Ent. Nat.-Biblioth., II, p. 59. (Generic assignment.)

Arizona: Sabino Basin, Santa Catalina Mountains, 3800 feet, VII, 8 to 20, 1916, (Lutz & Rehn), 1 ♀, [A. M. N. H.]; Sabino Cañon,

³Bruner's southeastern Nebraska record of the species may be valid, but seems decidedly doubtful. No material from that region is to be found in the Bruner Collection.

Santa Catalina Mountains, III, 10 to V, 2, 1916, (J. F. Tucker; 36 from dead Sahuaro), 13♂, 31♀, 4 juv., [Hebard Cln.]; Tucson, VII, 3 to 5, 1916, (Lutz & Rehn), 1♀, [A. M. N. H.]; Santa Cruz Village, Comobabi Mountains, VIII, 10 to 12, 1916, (Lutz & Rehn; from dead and sour Sahuaro), 2 juv., [A. M. N. H. and A. N. S. P.].

This species is apparently the only indigenous earwig of the southwestern desert regions and is a difficult insect to locate. It has usually been found in dead Sahuaro or Giant Cactus, *Cereus giganteus*, but extends its range far beyond that of the plant. In addition to the records given above and those of the references, the species has only been recorded from Isabel, Texas.

6. *Labia minor* (Linnaeus).

1758. *Forficula minor* Linnaeus, Syst. Nat., (10), 1, p. 423. [Europe.]

1838. *Labia minor* Doubleday, Ent. Mag., V, p. 279. [Wanborough, New York.]

1862. *Labia minuta* Scudder, Bost. Jour. Nat. Hist., VII, p. 415. [Massachusetts; Virginia.]

Ontario: Ottawa, IX, 8, 1912, (J. I. Beaulne), 4♂, 2♀, [A. N. S. P. and Hebard Cln.].

Maine: Norway, (S. J. Smith), 5♂, 1♀, [M. C. Z.].

Massachusetts: Beverley, VI, 1, 1866, (E. Burgess), 1♀, [M. C. Z.]; Medford, VI, 1907, 1♀, [M. C. Z.]; Cambridge, XI, 1, 1881, 1♂, 1♀, [M. C. Z.]; Wollaston, 1883, (F. H. Sprague), 1♂, [M. C. Z.]; Chicopee, X, 15, 1897, 2♂, 4♀, [A. N. S. P. and Hebard Cln.].

Rhode Island: Providence, V, 25, 1871, (outside stable), 6♂, 27♀, [M. C. Z.].

New York: Ithaca, VIII, 1 and 9, 1901 and 1904, [Cornell Univ. Cln.]; Albany, (Peck), 1♂, [M. C. Z.]; Tuxedo, V, 23, 1900, (T. D. O'Connor), 1♀, [Hebard Cln.].

New Jersey: Boonton, VII, 23, 1901, (G. M. Greene), 1♂, [A. N. S. P.].

Pennsylvania: Philadelphia, IV, 26, 1915, (J. A. G. Rehn), 1♂, [A. N. S. P.]; Frankfort, 1♀, [A. N. S. P.]; Chestnut Hill, VII, 1903, (M. Hebard; flying at dusk), 1♀, [Hebard Cln.]; St. Martins, VII, 5, 1916, (M. Hebard; flying before dusk), 1♀, [Hebard Cln.]; Olney, VII, 3, 1915, (M. Hebard; flying at dusk), 1♀, [Hebard Cln.]; Wyoming, VII, 21, 1903 and IX, 1904, (G. M. Greene), 1♂, 1♀, [A. N. S. P.] (these five localities in Phila.); Bryn Mawr, VI, 27, 1908, (M. Hebard; under board on manure pile), 2♂, 4♀, [Hebard Cln.];

Swarthmore, IX, 19, 1916, (E. T. Cresson, Jr.), 1♂, [A. N. S. P.].

Delaware: Delaware City, VII, 25, 1899, 1 ♂, [M. C. Z.].

Virginia: Hot Springs, VII, 29, 1916, (M. Hebard; flying before dusk), 1 ♂, [Hebard Cln.].

Wisconsin: Sparta, VIII, 7, 1896, (J. E. McDade), 1 ♂, 1 ♀, [M. C. Z.].

Manitoba: Aweme, IX, 11, 1909, (N. Criddle), 4 ♂, [Hebard Cln. and A. N. S. P.].

Nebraska: Lincoln, VIII and IX, 7 ♂, 8 ♀, [Hebard Cln. and A. N. S. P.].

California: Sonoma County, IV, 16, 1 ♀, [Hebard Cln.]; Claremont, (C. F. Baker), 2 ♂, [A. N. S. P.]

The species is frequently encountered in flight at, or just before, dusk. It is often numerous under debris about manure.

This minute insect, an adventive from Europe, has become widely distributed in the United States. It is the only earwig known from Canada, where it has been taken as far north as Quebec, Quebec. There are no records of its occurrence south of the Fall Line in the southeastern United States, except at Unadilla, Georgia,⁴ or from the Great Plains west to the Californian Sierras.

7. *Labia rehni* new species.

1914. *Labia minor* Rehn and Hebard, (not *Forficula minor* Linnaeus, 1758), Proc. Acad. Nat. Sci. Phila., 1914, p. 377. [Key West, Florida.]

Though very similar to *Labia minor* in general appearance, the unique female of this interesting species before us, is found to differ widely from females of that species, in the much smaller eyes, more ample pronotum, much shorter tegmina and wings, distinctive pygidium and forceps with ventro-internal margins not attingent, not perfectly straight and armed with microscopic, blunt serrulations.

Type: ♀; Key West, Florida. July 7, 1912. (Rehn & Hebard; under boards in store-house.) [Hebard Collection Type No. 439.]

Size very small; form moderately slender, very slightly more robust than in *L. minor*. Head, pronotum, tegmina, wings, abdomen and

⁴ The record by Rehn and Hebard from Key West, Florida, applies to *Labia rehni*.

forceps thickly clothed with short microscopic hairs. Head as in *minor*, but with eye only about three-fifths length of cheek⁵. Pronotum ample; lateral margins straight, parallel; caudal margin convex. Tegmina short, only a little longer than pronotum⁶; truncate caudad. Wings projecting beyond tegmina less than half the pronotal length⁷. Scent glands subobsolete. Ultimate dorsal abdominal segment simple, as in *minor*; fully three times as wide as long, caudal margin transverse. Pygidium declivent; lateral margins feebly concave, subparallel; distal margin strongly concave, so that the latero-caudal portions of the pygidium project caudad as slender, acute, conical projections. Forceps moderately heavy, triquetrous in proximal portion; dorsal sur-

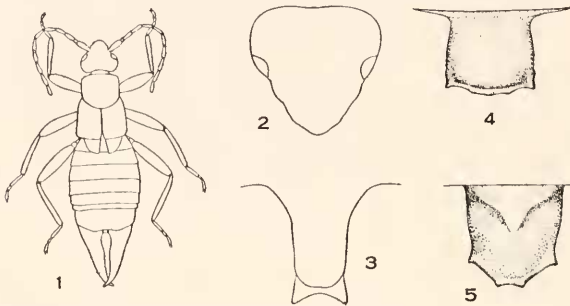


Fig. 1.—*Labia rehni* n. sp. Dorsal outline of type. (X 5.)

Fig. 2.—*Labia rehni* n. sp. Dorsal outline of head. Type, ♀. (Much enlarged.)

Fig. 3.—*Labia rehni* n. sp. Dorso-caudal outline of pygidium. Type, ♀. (Greatly enlarged.)

Fig. 4.—*Prolabia pulchella* (Serville). Dorso-caudal outline of male pygidium. Thomasville, Georgia. (Greatly enlarged.)

Fig. 5.—*Prolabia unidentata* (Beauvois). Dorso-caudal outline of male pygidium. San Francisco Mountains, San Domingo. (Greatly enlarged.)

face deplanate in proximal half, thence feebly convex; ventral surface deplanate; proximad the shaft is excavate to accommodate the pygidium, thence the internal face is deplanate for two-fifths the distance to apex, with ventral margin cingulate, feebly concave and microscopically closely and bluntly serrulate; beyond this point this margin is feebly lamellate from the juncture of the dorsal and ventral surfaces and is supplied with well-spaced, microscopic serrulations. Caudal margin of penultimate ventral abdominal segment transverse, very feebly convex. Limbs as in *minor*: short; thickly supplied with minute hairs; femora stout; metatarsus with ventral surface hairy, with two rows of chaetiform spines.

⁵ In *minor* the eye is only very slightly shorter than the cheek.

⁶ In *minor* nearly twice as long as pronotum.

⁷ In *minor* the wings project beyond the tegmina fully the pronotal length.

Length of body, 4.5; of pronotum, .86; of tegmen, 1.16; of exposed portion of wing, .41; of forceps, 1.36; width of pronotum, .88; of abdomen, 1.6 mm.

Head and pronotum bister. Tegmina and wings snuff brown. Dorsal surface of abdomen auburn, shading to blackish brown laterocephalad. Forceps auburn. Antennae, limbs and underparts buckthorn brown.

The type is unique.

8. *Labia curvicauda* (Motschulsky).

1863. *Forficelisa curvicauda* Motschulsky, Bull. Soc. Nat. Moscou, XXXVI, p. 2, pl. II, fig. 1. [Nura-Ellia Mountains, Ceylon.]

1912. *Labia curvicauda* Rehn and Hebard, Proc. Acad. Nat. Sci. Phila., 1912, p. 237. [Long Key, Florida.] (First United States record.)

The species is known from the United States only from the large series taken at Long Key, Florida, in the dying tops of cocoanut palms, at the white bases of the petioles where these were moist.

9. *Prolabia pulchella* (Serville).

1839. *Forficula pulchella* Serville, Hist. Nat. Ins., Orth., p. 42. [Niagara, New York⁸.]

1876. *Labia guttata* Scudder, Proc. Bost. Soc. Nat. Hist., XVIII, p. 265. [Texas.]

1876. *Labia burgessi* Scudder, *ibid.*, p. 266. [Palatka, Florida.]

1876. *Labia melancholica* Scudder, *ibid.*, p. 267. [Waco, Texas.]

1900. *Labia pulchella* Bormans, Das Tierreich, p. 65. [Texas.]

1911. *Labia unidentata* Burr, (in part, not of Beauvois, 1917), Proc. U. S. Nat. Mus., XXXVIII, p. 451. [Florida; Thomasville, Georgia; Texas.]

1911. *Prolabia unidentata* Burr, (in part, not of Beauvois, 1917), Gen. Ins., Fasc. 122, Dermapt., p. 57. [United States.] (Generic assignment.)

Careful comparison of all the material before us of the Unidentata Group, proves conclusively the above synonymy, as has been indicated by Burr. Contrary to that author's opinion, however, the species found in the United States is distinct from the West Indian *Prolabia unidentata* (Beauvois).

In *pulchella*, the male pygidium is distinctive in being roughly subquadrate, with broad distal margin subtruncate.

⁸One specimen, collected by Schaum, bore no data: the other was labelled "Niagara"; clearly mislabelled or an adventive specimen.

Alabama: Greenville, VIII, 3, 1915, (M. Hebard; under bark of dead sweet gum), 1♀, [Hebard Cln.]; Evergreen, VIII, 3, 1915, (M. Hebard; under bark), 2♂, 4♀, [Hebard Cln.].

Louisiana: Nairn, XI, 1892, (H. E. Weed), 1♀⁹, [A. N. S. P.]; Arcadia, VIII, 20, 1915, (Rehn & Hebard; few under bark of dead birch, where *Vostox brunneipennis* was abundant), 2♂, 5♀¹⁰. [Hebard Cln. and A. N. S. P.].

This insect is common under the dead bark of trees in the southeastern United States, but particularly of dead pines of various species. Among deciduous trees it has been found under the bark of Sweet Gum, Oak, Magnolia and Birch. The winged condition has been much more frequently found under bark of deciduous trees, but this is not a rule.

The species is widely distributed over the southeastern United States, but has not as yet been secured on the Florida Keys. Its northern boundary on the Atlantic coast is the Fall line. The most northern records are Raleigh, North Carolina; Vienna, Georgia; Montgomery, Alabama, and Arcadia, Louisiana. The northwestern limits are Waco and Bosque County, Texas.

10. *Prolabia arachidis* Yersin.

1860. *Forficula arachidis* Yersin, Ann. Soc. Ent. France. (3), VIII, p. 509, pl. X, figs. 33 to 35. [[Adventive at] Marseilles, France.]

1900. *Labia burgessi* Henshaw. (not of Scudder, 1876), Psyche, IX, p. 119. [[Adventive at] Boston, Massachusetts.] (First United States adventive material.)

1911. *Labia arachidis* Burr, Proc. U. S. Nat. Mus., XXXVIII, p. 453. [From ship at San Francisco from India.]

1913. *Prolabia arachidis* Caudell, Proc. U. S. Nat. Mus., XLIV, p. 598. [Adventive at San Francisco, California, and Brighton, Massachusetts; Aiken, Florida.] (First United States established record.)

Texas: Brownsville, VI, (H. F. Wickham), 1♂, [Hebard Cln.].

The present domiciliary insect is known from the United States only from the above record and references, excepting the series taken by Rehn and Hebard, at Homestead, Florida.

⁹This specimen is very pale in general coloration.

¹⁰All these, and the Greenville specimen, have fully developed wings. In the series from Georgia and Florida, this condition is very rare; represented in but 6, of 271 specimens examined.

CHELISOCHINAE.

11. *Chelisoches morio* (Fabricius).

1775. *F[orficula] morio* Fabricius, Syst. Ent., p. 270. [Tahiti.]

1907. *Chelisoches morio* Caudell, Jour. N. Y. Ent. Soc., XV, p. 169. [Menlo Park, California.] (First United States record.)

California: Alameda County, (R. Hunt; on bananas from Hawaii), 1 ♂, [Hebard Cln.].

Though the specimen here recorded is adventive, the species has become established at Menlo Park, California. It is widely distributed through the Papuan and Indo-Malaysian regions.

FORFICULIDAE.

FORFICULINAE.

12. *Doru lineare* (Eschscholtz).

1827. *Forficula linearis* Eschscholtz, Entomogr., p. 81. [Santa Catharina, Brazil.]

1865. *F[orficula] californica* Dohrn, Stett. Ent. Zeit., XXVI, p. 85. [California.] (First United States record.)

1876. *Forficula taeniata* Scudder, Bull. U. S. Geol. Geogr. Surv. Terr., II, p. 255. [Exotic localities; Arizona; Texas.]

1876. *Forficula exilis* Scudder, Proc. Bost. Soc. Nat. Hist., XVIII, p. 262. [Texas.]

1900. All these specific names referred to *Apterygida* by Bormans. Das Tierreich, II, pp. 110 and 111.

1911. *Doru exile* Burr, Gen. Ins., Fasc. 122, Dermapt., p. 79. [Exotic; southern United States.]

1911. *Doru lineare* Burr, (in part), *ibid.*, p. 79. [Exotic; Southern United States.]

1914. *Doru lineare* Rehn and Hebard, Jour. N. Y. Ent. Soc., XXII, p. 90, figs. 1 to 4. (Synonymy; general diagnosis; records.)

Arizona: San Xavier, Pima County, VII, 24, 1916, (Lutz & Rehn; attracted to light). 1 ♂, [A. M. N. H.]; Palo Alto Rancho, Altar Valley, about 3000 feet, X, 10, 1910, (M. Hebard; moderate numbers in bunches of coarse green grass, in meadow near wash), 8 ♂, 3 ♀, [Hebard Cln. and A. N. S. P.]; Sycamore Cañon, Baboquivari Mountains, about 3700 feet, X, 6, 1910, (Rehn and Hebard; attracted to light), 1 ♀, [Hebard Cln. and A. N. S. P.].

The insect is usually found in rank grasses. It frequently appears at night at light.

In the United States, the species is known only from about Brownsville, Texas, generally over the Tucson region in

Arizona and from southern California. It is widely distributed southward over the American continent as far as the Misiones, Argentina. In the West Indies it is known only from Cuba.

13. *Doru aculeatum* (Scudder).

1862. *Forficula aculeata* Scudder, Proc. Bost. Soc. Nat. Hist., XVIII, p. 262. (In part.) [New York; northern Illinois; southern Michigan.¹¹]

1900. *Apterygida luteipennis* Bormans, (in part not *Forficula luteipennis* Serville, 1839), Das Tierreich, II, p. 118. [New York.]

1910. *Doru lineare* Burr, (in part not *Forficula linearis* Eschscholtz, 1827), Proc. U. S. Nat. Mus., XXXVIII, p. 464. (Name assignment without material at hand.)

1914. *Doru aculeatum* Rehn and Hebard, Jour. N. Y. Ent. Soc., XXII, p. 93, figs. 5 and 7. (General diagnosis, measurements, records.)

Alabama: Mobile, VIII, 27, 1915, (Rehn & Hebard; moderately common in cane, high weeds and cat-tails in swamp on edge of Mobile Bay), 2 ♂, 12 ♀, 8 juv., [Hebard Cln. and A. N. S. P.]

Louisiana: Harahan, Jefferson Parish, VIII, 7, 1915, (Rehn & Hebard; beaten from high grasses beside road), 1 ♀, [Hebard Cln.]; Morgan City, La., VIII, 8, 1915, (Rehn and Hebard; beaten from grasses and plants in swamp), 3 ♀, (wings fully developed) [Hebard Cln. and A. N. S. P.]

The specimens from Morgan City are the first of a macropterous condition to be found in the present species.

This insect is usually found in high grasses. It is difficult to locate.

The distribution of this species covers the Mississippi Valley, not extending west of the line of semi-aridity. It is known northwestward to eastern Nebraska, northward to southern Michigan, New York and Snake Hill, New Jersey. Though apparently common in the southern Appalachians, it apparently does not occur southeastward of that region. We believe the species will be found on the Gulf coast from western Florida to eastern Texas.

14. *Doru davisii* Rehn and Hebard.

1914. *Doru davisii* Rehn and Hebard, Jour. N. Y. Ent. Soc., XXII, p. 95, figs. 6 and 8. [South Bay, Lake Okechobee, Florida.]

¹¹ The specimen recorded from Cuba, with a query, represents *Doru lineare*.

This striking species is still known only from the series originally studied, taken on the lake shore on low tangled vegetation between the water and a thick growth of Custard-apple trees.

15. *Forficula auricularia* Linnaeus.

1758. *F[orficula]auricularia* Linnaeus, Syst. Nat., Ed. X, I, p. 423 [Europe.]

1853. *Forficula auricularia* Fieber, Lotos, III, p. 254. [Exotic record; America.] (First American record.)

Rhode Island: Kingston, XII, 6, 1912, (A. E. Steene), 1 ♂, 1 ♀, [U. S. N. M.]; Newport, late VI, 1914, (R. W. Glaser), 5 juv., [A. N. S. P. and Hebard Cln.].

This insect has been previously reported from the United States from adventive material. It has recently become permanently established in New England, the species appearing in great numbers out of doors at Newport, Rhode Island.

In addition to the species considered above, a specimen of *Spandex percheron* (Guerin and Percheron), adventive in Massachusetts, was first described as *Spongophora bipunctata* by Scudder, then recorded as *Forficula percheroni* by Scudder and later as *Psalis percheroni* by Caudell.

Some North American Anthomyiidae (Dipt.).

By O. A. JOHANSEN, Cornell University, Ithaca, New York.

Since the appearance of my paper on New Eastern Anthomyiidae* I have noted several novelties, among them the male of *Dialyta flavitibia* which was kindly sent to me by Mr. C. W. Johnson. The discovery of the male of this species confirms my generic determination. I have also found the male of the *Hylephila*,† mentioned in my previous paper, which enables me to give a description of the species.

Hammomyia paludis n. sp.

♂.—Length 5-6 mm. Head black, silvery gray pruinose with black reflections; in profile the genae are about 0.4, the buccae about 0.6, the

*Trans. Amer. Ent. Soc., XLII: 385.

†*Hylephila* appears to be preoccupied in Lepidoptera. The genus may be merged with *Hammomyia* as has already been done by Stein.